

REMARKS

The Applicant thanks the Examiner for the thorough examination of the application. No new matter is believed to be added to the application by this amendment.

Entry of Amendment

Entry of this Amendment under 37 C.F.R. §1.116 is respectfully requested because it places the application into allowance. Alternately, entry is requested because it reduces issues for appeal.

Status of the Claims

Claims 1-5, 7-13 and 15-17 are pending in the application. Claims 6 and 14 are cancelled.

Rejection Under 35 USC §103(a) over Kubo and Taiji

Claims 1-5, 7-13 and 15-17 remain rejected under 35 USC §103(a) as being obvious over Kubo (U.S. Patent 6,295,109) in view of Taiji (JP 3228027). Applicant maintains traversal.

The present invention pertains to a novel transfective liquid crystal display device that includes a transfective film formed from a transmissive material that has a reflective material (Ag or Al) scattered therein (including

the surface). The concentration of the reflective material is adjusted according to a main mode of the transfective liquid crystal display device.

The inventive technology finds a typical embodiment in instant claim

1:

1. A transfective liquid crystal display device, comprising:
a transfective liquid crystal display panel having a first transparent substrate, a second transparent substrate, and a liquid crystal layer interposed between the first and second transparent substrates, the first transparent substrate having a color filter, the second transparent substrate having a plurality of pixel regions, a pixel electrode and a reflector, the reflector having a light transmitting hole which the pixel electrode covers, the light transmitting hole transmitting light;

a transfective film located outside of the second transparent substrate of the liquid crystal display panel around a location corresponding to the light transmitting hole, made of a transmissive material with reflective material scattered therein, the reflective material reflecting light, the transmissive material transmitting light; and

a back light device for supplying light toward the transfective film;

wherein each pixel region is divided into reflective and transmissive portions, and a reflection brightness of the transfective liquid crystal display device is improved due to a first reflected light at the reflector of the reflective portion and a second reflected light at the transfective film of the transmissive portion, and a concentration of the reflective material scattered on a surface of the transfective film is adjusted according to a main mode of the transfective liquid crystal display device.

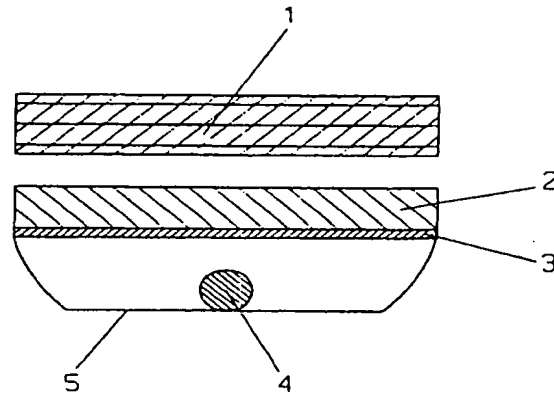
Distinctions of the invention over Kubo and Taiji have been placed before the Examiner.

At page 3 of the Office Action, the Examiner admits to the manifold failings of Kubo. The admissions of the failings of Kubo include:

a transflective film located outside of the second transparent substrate of the liquid crystal display panel, and the transflective film is made of a transmissive material with reflective material scattered therein, wherein (a) transmissive material is made of acrylic-based resin according to claims 3 and 10, (b) the reflective material of the transflective film is selected from a group consisting of Ag and Al according to claims 2 and 11 and concentration of the reflective material scattering on a surface of the transflective film is adjusted according to main mode of the transflective liquid crystal display device; (c) the transflective liquid crystal display device has a reflective main mode, and the concentration of the reflective material is increased according to claims 7 and 15; (d) the transflective liquid crystal display device has a transmissive main mode, and the concentration of the reflective material is decreased according to claims 8 and 16.
(Emphasis in original)

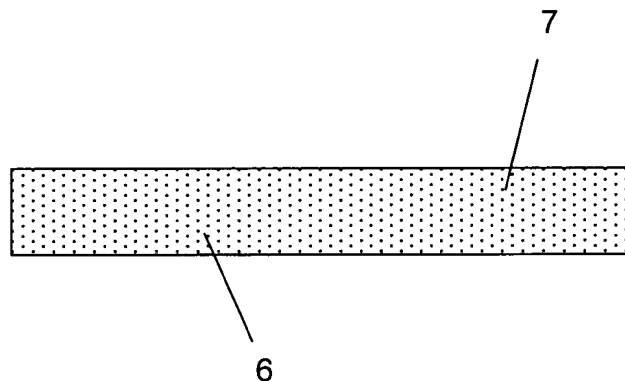
The Examiner then alleges that Taiji pertains to a transflective liquid crystal device. However, Taiji fails to disclose or suggest including a reflector (reflective electrode) having a light transmitting hole. Taiji thus fails to pertain to a **transflective** liquid crystal display device. Instead, Taiji pertains to a **translucent** liquid crystal device having a **diffusion plate**. Taiji therefore represents non-analogous art, and a person having ordinary skill would not turn to Taiji when trying to solve the problems that the invention solves.

The fundamentally different technology of Taiji is shown in Figure 1 of Taiji, which is reproduced below.



第 1 図

The Abstract of Taiji clearly states: "The diffusion plate 2 is constituted of a milky white acrylic resin 6 and aluminum particles 7 are incorporated therein." This is illustrated in Figure 2 of Taiji:

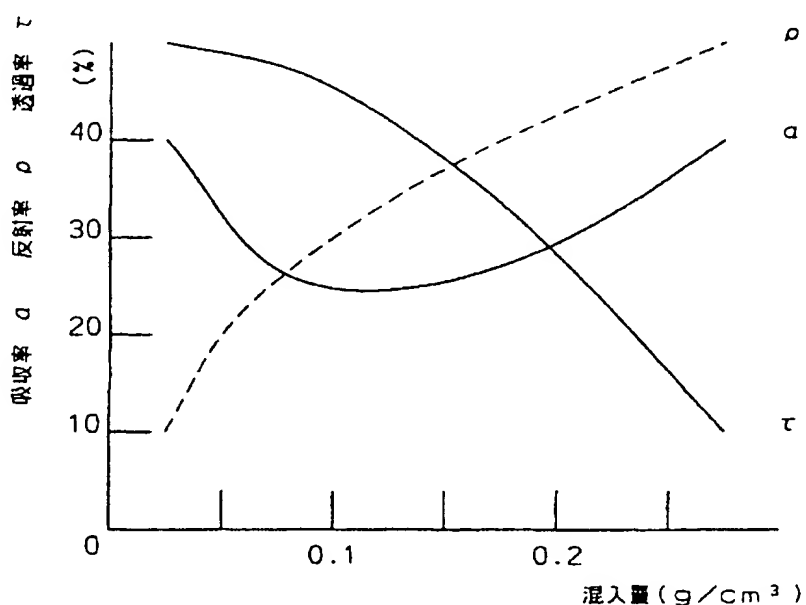


In contrast, the present invention has a transfective film "made of a transmissive material with a reflective material scattered therein," as is typically set forth in claim 1 (and similarly set forth in independent claim 10). The reflective material scattered in the transmissive material (and its surface) allow that "a concentration of the reflective material scattered on the surface

of the transmissive material is adjusted according to a main mode of the transfective liquid crystal display device.”

Neither Kubo nor Taiji disclose or suggest adjusting the reflective material in or on the transmissive material according to the main mode of a device.

For example, Figure 3 of Taiji (reproduced below) does not relate to an adjustment of a concentration of the reflective material according to a main mode, but instead illustrates the minimum absorption for reducing light loss in a **diffusion plate**.



第3図

Figure 3 of Taiji shows the minimum absorption for reducing light loss. Figure 3 of Taiji, that is, shows variations of transmittance (τ), reflectance (ρ) and absorption (α) as a function of Al content. As a result, Figure 3 of Taiji

pertains to the modulation of translucence in a **diffusion plate** and not to **transflection**. Taiji therefore clearly represents non-analogous art, and a person of ordinary skill would not turn to Taiji for teachings pertaining to transflection for these additional reasons.

As a result, a person having ordinary skill thus has no motivation to combine the teachings of Kubo with Taiji to produce the invention as is embodied in independent claims 1 and 10. Thus, a *prima facie* case of obviousness has not been made. Claims dependent upon independent claims 1 and 10 are patentable for at least the above reasons.

This rejection is accordingly overcome and withdrawal thereof is respectfully requested.

Conclusion

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment

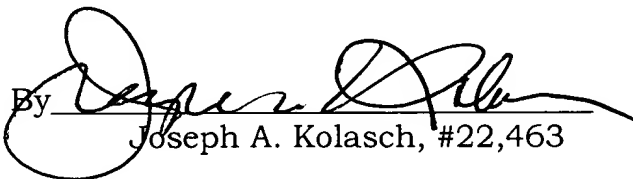
Amendment filed June 22, 2004
Response to Office Action of March 22, 2004


Appl.No. 09/621,281

to Deposit Account No. 02-2448 for any additional fees required under 37
C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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